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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,396	10/30/2001	Franciscus W.A. Dirne	PHN 14,359C	5222

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EXAMINER
MCDONALD, RODNEY GLENN

ART UNIT	PAPER NUMBER
1753	4

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
10/022,396	Dirne et al.
Examiner	**Art Unit**
Rodney McDonald	1753

#4

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *6 and 7* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *6 and 7* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. *08/101,519*.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 is indefinite because it is dependent on a canceled claim.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okimoto et al. (Japan 55-73917) in view of Francois et al. (U.S. Pat. 4,973,388).

Okimoto teach that to obtain ***a magnetic head*** core with excellent resistance to wear by stacking several ***chromium-oxide coatings on the surface*** of magnetic alloy. (See Abstract)

After a core-piece of Cr-based Permalloy is magnetically annealed, a Cr-oxide coating of not less than 0.5 microns is formed on the surface by heating up to not less than 700 degrees C in wet gas of approximate 0 to 40 degrees C in dew point. In case of Permalloy containing no Cr, a ***Cr-oxide coating is formed by sputtering after magnetic annealing.*** (See Abstract)

The difference between Okimoto et al. and the present claims is that an initial layer of chromium is not discussed and adding oxygen to the atmosphere to form the oxide layer on the metal layer is not discussed.

Francois teach depositing an undercoating which may have a thickness lying between 0.1 and 20 microns produce by vacuum deposition of at least one of the following metals: titanium, zirconium, hafnium, vanadium, niobium, tantalum, ***chromium***, molybdenum, tungsten, aluminum. This deposition may be effected in the presence of one of the following elements: carbon, nitrogen, ***oxygen,*** boron, silicon, fluorine, chlorine, sulphur, phosphorus. ***The proportion of these elements is increased progressively during the phase of vacuum deposition of previously mentioned metals.*** (Column 4 lines 5-15)

The vacuum deposition can be ***cathodic sputtering*** of a metal (i.e. titanium). (Column 3 lines 10-15)

As an example during the deposition, ***the amount of nitrogen introduced into the treatment chamber varies continuously form zero to a value defined by the desired result***, in

such a manner that the composition of the coating 11, ***starting from the bare surface of the article, varies progressively from pure titanium to titanium nitride having an approximately stoichiometric composition.*** (Column 3 lines 15-22)

The coating obtained thereby ***has minimum shear stresses at the surface of contact of the article with the coating,*** as well as the ***desired*** optical, ***mechanical*** and anticorrosive ***properties.*** (Column 3 lines 30-34)

The motivation for depositing an initial layer of metal and adding oxygen at a later time during deposition is that it allows for production of a layer comprised of the metal and metal oxide that has a minimum shear stress at the surface of the article with the coating. (Column 3 lines 30-34)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Okimoto et al. by depositing an initial layer of metal and adding oxygen at a later time during deposition as taught by Francois et al. because it allows for a coating that has a minimum shear stress at the surface of the article with the coating.

4. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al. (Japan 55-52525) in view of Francois et al. (U.S. Pat. 4,973,388).

Okimoto et al. teach ***a magnetic head excellent in resistance to wear*** and shielding effect by roughening the tape-opposing surface of a magnetic shield case with its magnetic core sliding surface exposed from its window part and then by providing a ceramic layer of an oxide film formed on it. (See Abstract)

Okimoto et al. teach ***a magnetic head*** has a magnetic head core incorporated in shield case 3 and the sliding surface of core 1 is formed being exposed from window part 4 of case 3. The tape-opposing surface of case 3 is roughened by blast-processing and then annealed to form oxide film 5 of less than approximately 1 micron in thickness on the surface. Next, ceramic layer 6 is formed on it by applying a mixture of alumina and titania, ***chromium oxide***, etc. (See Abstract)

The differences between Oshima et al. and the present claims is that depositing the chromium oxide by sputtering is not discussed, that an initial layer of chromium is not discussed and adding oxygen to the atmosphere to form the oxide layer on the metal layer is not discussed.

Francois et al. is discussed above and all is as applies above. (See Francois et al. discussed above)

The motivation for sputter depositing an initial layer of metal and adding oxygen at a later time during sputter deposition is that it allows for production of a layer comprised of the metal and metal oxide that has a minimum shear stress at the surface of the article with the coating. (Column 3 lines 30-34)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Oshima et al. by depositing an initial layer of metal and adding oxygen at a later time during deposition as taught by Francois et al. because it allows for a coating that has a minimum shear stress at the surface of the article with the coating.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney McDonald whose telephone number is 703-308-3807. The examiner can normally be reached on M-Th from 8 to 5:30. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen, can be reached on (703) 308-3322. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

RODNEY G. MCDONALD
PRIMARY EXAMINER

RM

February 19, 2003